Critical Path Initiative

The Role of Good Clinical Practice and Manufacturing Science in New Drug Development

Critical Path Opportunities and CBER/OCBQ

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Critical Path Initiative

- OCBQ Product Development-Related Responsibilities
- Good Clinical Practice/Design
- Manufacturing Science
- Cross-Cut Among all Products

Related OCBQ Responsibilities

- IND reviews
- Clinical investigation oversight
- BLA reviews
- CMC expertise
- Manufacturing change reviews
- Pre-approval and manufacturing change inspections

Opportunities Through OCBQ in Critical Path

- Manufacturing science and clinical trial design planning
  - as part of pre-IND, pre-IDE, and pre-BLA process
- Expert guidance
- Facilitate effective transition from R&D stage to clinical stage to product development stage

Critical Path To New Product Development

- Expanded and early IND, IDE, and BLA guidance/discussion to facilitate --
  - Innovative science-based practices
  - Clear path to product approval
  - Efficient and effective commercial-scale manufacturing
  - Safe and effective products for patients
  - Increase in critical medical product availability
  - Avoiding regulatory problems later in development and distribution process

CBER Sponsors/Manufacturers

Range of Experience

- Established drug/biologic companies
- New product or new facility development at established or licensed companies
- Small-scale manufacturers
- Start-ups, academia, and individuals
  - Limited experience
  - Limited resources

Good Clinical Practice/Design

- Clinical studies needed to show new product safe and effective
- Rights, safety, and welfare of subjects in clinical trials paramount
- Quality/usefulness of clinical data critical to product approval
- Often new trials and new sponsors, sponsor-investigators, and investigators in cutting edge areas (e.g., cell and gene therapies)

Good Clinical Practice/Design

How to Protect Subjects and Provide Quality Data

- Available guidance includes “ICH E6: Good Clinical Practice: Consolidated Guidance”
- Regulations (21 CFR 50, 56, 312, & 812)
- Quality management principles

Good Clinical Practice/Design

- Early dialogue in early stages of clinical trial design will facilitate:
  - Effective movement from research phase into clinical trial phase
  - Choice and training of qualified clinical investigators
  - Identification and development of monitoring responsibilities and trial monitoring plan
  - Selecting monitors
  - Role of IRB
  - Quality oversight of product manufacturing

Manufacturing Science

- Efficient and effective manufacturing science design and control activities critical to product safety, effectiveness, and availability
- Consider early in the development process

Manufacturing Science

Providing Safe and Effective Products

- Very useful information in FDA Manufacturing Guidance documents

  For example:

  Sterile Drug Products Produced by Aseptic Processing

  - www.fda.gov/cber/gdlns/steraseptic.pdf
  - Also refers to other guidance documents

- Regulations (21 CFR 210-11, 600, 606, 610, 820)

Manufacturing Science

- Build quality into product development process
- Choose acceptance criteria wisely
  - Based on data
  - Based on intended process
- Robust system/process critical
- Absence of planning and implementation of manufacturing science principles into development process can impact product integrity and delay product approval

Manufacturing Science
Examples

- Early discussion will be beneficial when considering novel approaches to:
  - Scale-up facility design
  - Equipment qualification
    - Sampling techniques
    - Control of manufacturing processes
    - Compliance with cGMPs during product development and manufacturing stages

Manufacturing Science

Examples

- OCBQ can provide guidance to facilitate decisions impacting final product quality:

- Product delivery (liquid/lyophilized/device/ etc.)
- Container/closure system
- Raw materials
- Manufacturing process
- Sampling/testing
- Logistics (manufacturing site/shipping of product)
- Technology transfer
- Scale-up
- Automation

Conclusions

- Early, informed, and effective planning
- Communication – within company and with FDA
- Integration of trial design and manufacturing science issues into early development plan
- Facilitates innovation, quality science/data, new product development
- Can reduce development costs, improve likelihood of success during clinical trial and manufacturing phases
- Can expedite licensing process/approval

Conclusions
continued

- Work together to provide patients with safe and effective products, and to increase product availability
- We look forward to discussing these issues today and working with you in the critical path to new product development
- OCBQ will participate with monitors in most of the panels this afternoon to address and respond to any questions on these issues